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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,528	04/09/2004	Christopher M. Cagle	LAR-16599-1	4312

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
LANGLEY RESEARCH CENTER  
MAIL STOP 141  
HAMPTON, VA 23681-2199

EXAMINER
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KOEHLER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3726

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
31 DAYS	12/27/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/828,528

Applicant(s)

CAGLE ET AL.

Examiner

Christopher M. Koehler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-36 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____                                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____   | 6) <input type="checkbox"/> Other: ____                           |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-13 and 29-31, drawn to a flexible skin, classified in class 244, subclass 129.1.
- II. Claims 14-28 and 32-36, drawn to a method of making a flexible skin, classified in class 29, subclass 527.2.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by a process in which the bi-directional spring is produced in a different manner.

3. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

4. This application contains claims directed to the following patentably distinct species:

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5. In the event that the applicant elects Group I above applicant must further elect one from the following species:

Species A, claims 1-10 and 29, drawn to a spring encapsulated in a flexible solid.

Species B, claims 11-13 and 30-31, drawn to a spring skeletally attached to a flexible membrane.

No generic claim.

6. In the event that the applicant elects Species A above applicant must further elect one from the following species:

Species C, claim 3, drawn to rolling the elastomeric material.

Species D, claim 4, drawn to casting the elastomeric material.

Species E, claim 5, drawn to pouring the elastomeric material.

Species F, claim 6, drawn to spraying the elastomeric material.

Species G, claim 7, drawn to dipping the elastomeric material.

Claim 2 generic.

7. In the event that the applicant elects Species A above applicant must further elect one from the following species:

Species H, claim 9, drawn to circuitry carried by the spring.

Species J, claim 29, drawn to circuitry carried by flexible solid.

Claim 1 generic.

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8. In the event that the applicant elects Species B above applicant must further elect one from the following species:

Species K, claim 12, drawn to a flexible membrane on one side of the spring.

Species L, claim 13, drawn to a flexible membrane on two sides of the spring.

Claim 11 generic.

9. In the event that the applicant elects Species B above applicant must further elect one from the following species:

Species M, claim 30, drawn to an element bonded to the spring.

Species N, claim 31, drawn to an element bonded to the membrane.

Claim 11 generic.

10. In the event that the applicant elects Group II above applicant must further elect one from the following species:

Species O, claims 14-24, 28 and 34, drawn to a method for embedding a spring in a flexible solid.

Species P, claims 25, 27, 32-33 and 35-36, drawn to a method for adhering a flexible membrane to a surface of the spring.

Species Q, claim 26, drawn to a method for adhering a flexible membrane to each surface of the spring.

No generic claim.

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11. In the event that the applicant elects Species O above applicant must further elect one from the following species:

Species R, claim 15, drawn to chemically etching for making the spring.

Species S, claim 16, drawn to rapid cutting processes for making the spring.

Claim 14 generic.

12. In the event that the applicant elects Species S above applicant must further elect one from the following species:

Species T, claim 17, drawn to laser cutting.

Species U, claim 18, drawn to waterjet cutting.

Claim 16 generic.

13. In the event that the applicant elects Species O above applicant must further elect one from the following species:

Species V, claim 19, drawn to metallic spring.

Species W, claim 20, drawn to plastic composite spring.

Claim 14 generic.

14. In the event that the applicant elects Species O above applicant must further elect one from the following species:

Species X, claim 21, drawn to dipping the spring.

Species Y, claim 22, drawn to spraying the spring.

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Species Z, claim 23, drawn to pouring material over the spring.

Species AA, claim 24, drawn to brushing material over the spring.

Claim 14 generic.

15. In the event that the applicant elects Species P above applicant must further elect one from the following species:

Species AB, claim 32, drawn to bonding the element to the spring.

Species AC, claim 33, drawn to bonding the element to the membrane.

Claim 25 generic.

16. In the event that the applicant elects Species P above applicant must further elect one from the following species:

Species AD, claim 35, drawn to bonding the circuitry to the spring.

Species AE, claim 36, drawn to bonding the circuitry to the membrane.

Claim 25 generic.

17. The species are independent or distinct for the reasons stated above.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims

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readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.



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18. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Koehler whose telephone number is (571) 272-3560. The examiner can normally be reached on Mon.-Fri. 7:30A-4:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMK

  
DAVID P. BRYANT  
SUPERVISORY PATENT EXAMINER

12/20/06